A NEW GENUS AND SPECIES OF SAWFLY.

By Walter W. Froggatt, F.L.S.

(Plate xiv.)

Phylacteophaga, n.g.

Antennæ 8-jointed, those of the male produced into projecting horns on the outer extremity in the middle of 4th-7th joints. Head narrow, eyes large, ocelli in centre of the forehead. Legs long and slender, all bearing spines, those on the hind tibiæ large and straight; claws bifid. Wings: forewings with thick costal nervure and large rounded stigma, the costal nervure extending beyond the tip of the radial cell, but not forming an appendicular cell; marginal nervure turning upward; the first of the four cubital cells small, second and third angular, longer than broad, with the transverse cubital nervures marked with foveæ in the middle; third discordal cell petiolate; no lanceolate cell: hindwings with costal nervure straight; radial cell petiolate at the tip, median cell large, transverse, cubital nervures showing foveæ in centre; first cubital cell small, cubital and discoidal nervure not reaching the outer margin of the wing. Body long and slender, the saw of the female projecting beyond the abdomen. Larva flattened, slender, with six thoracic legs.

This genus belongs to the Sub-family *Pterygophorinæ*, "the members of which have no lanceolate cell in the forewings, and the accessory nervure of the hindwings is wanting, the latter have only one middle cellule, and the anterior are appendiculated" (Ashmead). The genus *Pterygophorus* is typical of the group, and to it the genus now proposed is allied in the general form of the wings, but the latter has the scutellum posteriorly rounded. The larva, both in form and habits, is very different from any member of the group known to me.

Phylacteophaga eucalypti, n.sp.

Eggs inserted singly, generally one on either side of the mid-rib of a leaf towards the tip, seldom more than two upon a leaf.

Larva 5 lines in length, long, slender, and flattened on the dorsal surface. Head small, testaceous, lobed on either side, with the mouth parts fringed with fine hairs. Thoracic and two apical abdominal segments bright golden yellow, median ones pale yellow; thoracic segments of uniform size, rounded on the outer margins, each bearing a pair of short stout semitransparent legs; abdominal segments of uniform size, rounded on the margins, the terminal one rounded at the apex.

The young larvæ feed upon the tissue between the cuticle, forming an irregular brown blotch of about $1\frac{1}{2}$ inches in diameter. When full grown they spin a thin silken web, forming an oblong cocoon measuring 5 lines in length and 3 in breadth, in the centre of the gnawed area, which stands out on either surface of the leaf like a small blister.

Pupa.—$3\frac{1}{2}$ lines in length, slender in form; eyes black and projecting; ocelli standing out very distinctly on the summit of the head; head, thorax, and the tip of the abdomen reddish-orange, the tip of the latter bifid; wing-covers small, dark brown.

When leaves containing the pupæ are touched the enclosed insect has a peculiar habit of arching the back and rapping the head and tip of the abdomen against the walls of the cell as if to frighten away intruders.

The change from larva to pupa takes several days before completion, but the latter only remains about a week in the pupal stage before it emerges as an imago.

♂ *Imago.*—Length 3 lines. Head reddish-brown; antennæ, eyes, a patch enclosing the ocelli, and thorax black; fore and mid-legs dull yellow; with the basal portion of the thighs black in the second pair; hind legs black, with the apex of the thighs light brown. Wings hyaline, nervures pale at the base, darker towards extremities; stigma black.

Head truncate in front, slightly lobed and swelling out below the base of the antennæ, wider than the thorax, nearly twice as wide as long, swelling out behind the eyes, and deeply arcuate at the junction with the prothorax; eyes large, hemispherical, very finely faceted; ocelli ochreous, shining, large; hind pair in a line with the centre of the eyes, the frontal one in the centre behind the base of the antennæ, enclosed in an irregular heart-shaped black patch occupying the centre of the forehead; antennæ 8-jointed, 1st short, cylindrical, reddish-brown at base; 2nd smaller, bead-shaped; 3rd thrice the length of the first two combined, rounded at the base, slightly curved at the base, swelling out at the apex and truncate; 4th slender at the base, swelling out to the apex, which is slightly produced into a knob on the outer margin; 5th, 6th, 7th segments of about equal length, slender at the base and swelling out into a funnel-like tip, which forms a finger-like projection on the outer edge; 8th segment slender, oblong, oval, longest and rounded at the tip.

Thorax smooth, shining, rounded in front, and widest at base of the fore-wings; a short thorn-like projection on either side of the mesothorax, the apex truncate; scutellum smooth, large, angled on either side in front, rounded behind. Metathorax cylindrical, tapering towards the abdominal segments. Legs long, slender, the tibiæ of each pair armed with a pair of apical spines on the inner margin, those of the fore and middle pair short and curved inwards; tibiæ of hind legs armed with a small spine about one-third from the apex, and two large stout spines at the apex; 1st joint of the tarsi longer than the rest combined; 2nd and 3rd of the same length; 4th smaller and rounded; tarsal claws stout, turned downwards, bifid.

Wings: forewings more than twice as long as broad, costal nervure stout; stigma large, elongate; radial cell large, costal nervure produced beyond the outer margin; the first of the four cubital cells rounded above; 2nd cubital cell constricted at base, 3rd longer than broad, the transverse cubital nervures showing fovea in the centre; median cell long and slender, clouded at apex; 1st discoidal cell narrower at the base, broadest in a line with the

apex of median, produced into a narrow angular point under the lower margin of the first cubital cell; 2nd discoidal cell angular, receiving the sub-discoidal cell in the centre of the apical margin; anal cell large, swelling out at apex: hindwings with costal nervure straight, narrow; sub-costal nervure extending beyond the front of the radial cell; median cell long, broad at the apex; 1st cubital cell broadest at the base; both the transverse cubital nervures showing fovea in the centre; neither the cubital or discoidal nervure coming to the outer edge of the wing; the posterior margin very much thickened from the base half way round the basal lobe.

Abdomen slender, cylindrical, tapering to the apex, truncate at the tip.

♀ *Imago.*—Four lines in length, larger than the male, with the whole of the head and thorax, except the apical edge of the metathorax, bright reddish-brown, ocelli black; antennæ without prongs, somewhat longer, 3rd joint longest, slender at the base, swelling out at the apex; 4th-7th decreasing slightly in length, but increasing in width towards the tip; 8th larger, and truncated on the outer edge.

Abdomen broadest at the base, tapering to the tips, somewhat flattened on the dorsal surface; anal segment cone-shaped, truncated at the tip, with the protruding tip of the saw showing from above in some specimens; viewed from beneath the saw is very distinctly produced.

Hab.—Melbourne, Victoria; larvæ feeding on the foliage of *Eucalyptus globulus* (Coll. Mr. Chas. French).

This handsome insect was sent to me by Mr. French, who stated that it was doing a great deal of damage to the foliage of the Blue Gum. At my request he sent me an ample collection of freshly gathered leaves, containing specimens in all stages of growth, except the eggs and very young larvæ. When the sawflies emerged they were very active, running about the jar, and trying to make their way out; when touched they made a buzzing sound like many of the Pergas. The protective rattle of the chrysalid when the leaves were picked up or handled is very remarkable.

EXPLANATION OF PLATE.

Phylacteophaga eucalypti.

Fig. 1.—Forewing.
Fig. 2.—Hindwing.
Fig. 3.—Antenna of ♀.
Fig. 4.—Antenna of ♂.
Fig. 5.—Foreleg.
Fig. 6.—Tarsi of hindleg.
Fig. 7.—Saw of ♀.
Fig. 8.—Larva (enlarged).
Fig. 9.—Gnawed leaf of *Eucalyptus globulus*, with pupal chambers.